

CLAIMS

1. A method of managing a cache of a mobile device carried by a user, the cache being used for storing items associated with locations in a real-world space being visited by the user; the method comprising the steps of:
 - (a) receiving an item at the mobile device, and
 - (b) degrading the received item to reduce the amount of cache space needed to store it, and storing the degraded item in the cache instead of the un-degraded item.
2. A method according to claim 1, wherein as part of step (a) the received item is initially stored in the cache in an un-degraded form, the degrading of the item in step (b) being subsequently effected upon a predetermined condition concerning the item and/or the mobile device becoming satisfied.
3. A method according to claim 2, wherein said predetermined condition is at least partially based on the probability of usage of the item as assessed from a determination of the probability of usage of that or other items having regard to the progress of the user around said space.
4. A method according to claim 2, wherein said predetermined condition is at least partially based on the time elapsed since the item was last accessed by the user or, if not yet accessed, since the item was initially loaded into the cache.
5. A method according to claim 2, wherein said predetermined condition is at least partially based on the amount of available cache space remaining.
6. A method according to claim 1, wherein step (b) is effected upon the receipt of the item at the mobile device in the event that a predetermined condition concerning the item and/or the mobile device is already satisfied.
7. A method according to claim 1, wherein the degrading of the item in step (b) is effected by at least one of:

- where the item comprises a sampled media stream, reducing the sample rate and/or the number of bits used to represent each sample;
- selectively removing whole portions of the item;
- where the item is an image, reducing the resolution of the image;
- 5 - changing the format in which the item is represented.

8. A method according to claim 1, wherein the degraded item is stored in cache along with an associated flag indicative of its degraded form.

10 9. A method of presenting an item to a user of a mobile device where said item is stored in a cache of the mobile device according to the cache management method of any one of the preceding claims, the item presentation method comprising the steps of:

- (a) upon the item being required for presentation to the user, retrieving the item from cache and presenting it to the user;
- 15 (b) determining whether the item is in a degraded form, this step being carried out before, at the same time as, or after step (a);
- (c) where step (b) indicates that the item is in a degraded form, requesting an un-degraded version of the item from an off-device resource and when received, substituting this version of the item for the degraded version being presented to the user.

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10. A method of managing a cache of a mobile device carried by a user, the cache being used for storing items associated with locations in a real-world space being visited by the user; the method comprising the steps of:

- (a) determining the probability of usage of at least one item in dependence on the user's
- 25 progress around the space;
- (b) transforming a cached item by compression and/or degradation, to reduce the amount of cache space occupied by that item, this item being selected on the basis of the determination carried out in step (a) in respect of that item or other items.

30 11. An arrangement for managing a cache of a mobile device, the cache being intended for use in storing items associated with locations in a real-world space visited by a user of the mobile device; the arrangement comprising:

- receiving means for receiving an item at the mobile device, and
- degrading means for degrading the received item to reduce the amount of cache space needed to store it, and for storing the degraded item in the cache instead of the un-degraded item.

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12. An arrangement according to claim 11, wherein the receiving means is arranged to initially store the received item in the cache in an un-degraded form, the degrading means being arranged to degrade the item subsequently upon a predetermined condition concerning the item and/or the mobile device becoming satisfied.

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13. An arrangement according to claim 12, further comprising prediction means for determining the probability of usage of the item as assessed from a determination of the probability of usage of that or other items having regard to the progress of the user around said space, the predetermined condition being at least partially based on said probability of usage as determined by said prediction means.

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14. An arrangement according to claim 12, further comprising lapsed-time means for determining the time elapsed since the item was last accessed by the user or, if not yet accessed, since the item was initially loaded into the cache, said predetermined condition being at least partially based on said time elapsed as determined by the lapsed-time means.

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15. An arrangement according to claim 12, further comprising cache-space means for determining the amount of available cache space remaining, said predetermined condition being at least partially based on the available cache space remaining as determined by said cache-space means.

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16. An arrangement according to claim 11, wherein the degrading means is arranged to degrade an item directly upon the receipt of the item at the mobile device in the event that a predetermined condition concerning the item and/or the mobile device is already satisfied.

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17. An arrangement according to claim 11, wherein the degrading means is arranged to degrade said item in step (b) by at least one of:

- where the item comprises a sampled media stream, reducing the sample rate and/or the number of bits used to represent each sample;
- selectively removing whole portions of the item;
- where the item is an image, reducing the resolution of the image;
- 5 - changing the format in which the item is represented.

18. An arrangement according to claim 11, wherein the degrading means is arranged to store the degraded item in cache along with an associated flag indicative of its degraded form.

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19. An arrangement according to claim 11, further comprising:

- means for retrieving the item from cache and presenting it to the user; and
- means for determining whether the item to be, or being, presented to the user is in a degraded form and, if so, for requesting an un-degraded version of the item from an
- 15 off-device resource; these means being arranged to substitute the un-degraded version of the item, when received, for the degraded version being presented to the user.

20. An arrangement for managing a cache of a mobile device, the cache being intended for use in storing items associated with locations in a real-world space visited by a user of the

20 mobile device; the arrangement comprising:

- prediction means for determining the probability of usage of at least one item in dependence on the user's progress around the space; and
- transforming means for transforming a cached item by compression and/or degradation, to reduce the amount of cache space occupied by that item, this item being selected on
- 25 the basis of the determination carried out by the prediction means in respect of that item or other items.